STARSHIP USE IN DISTRIBUTED TESTING

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EPG

29 April 2004

What is Starship?

Physically

•Desktop or laptop computer
•With Communications paths (e.g., radio, LAN, WAN)
•Central node(s) in a distributed infrastructure

Functionally

"Provides Situational Awareness" at every stage of an exercise:

- Generates the Plan
- Generates Deployment Documentation
- Verifies Installation
- Initializes
- Monitor and Displays Status
- Controls
- Records
- Analyzes
- Plays back (planning and monitoring data)

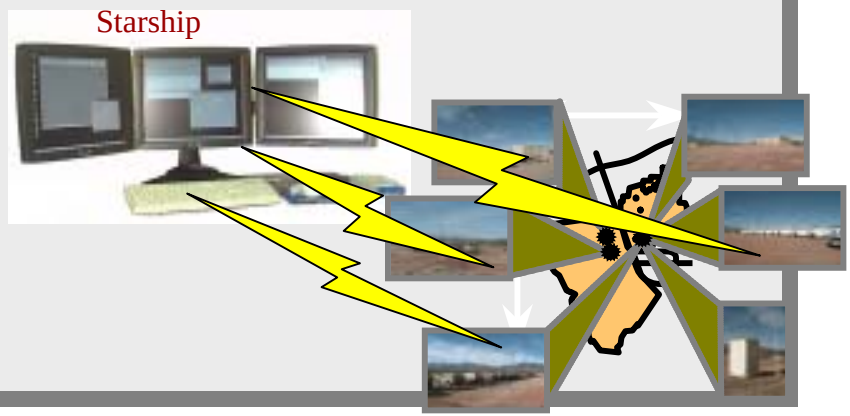
Operationally

•A suite of interoperable tools allow a user to specify and customize an environment to plan, execute, and monitor the execution of an exercise.
•The "entities" (e.g., simulations, instrumentation, live players, hardware, computers) must have a defined interface.

What is Starship?

Planning Initialization Monitoring Command and Control Status Display AAR

Situational awareness

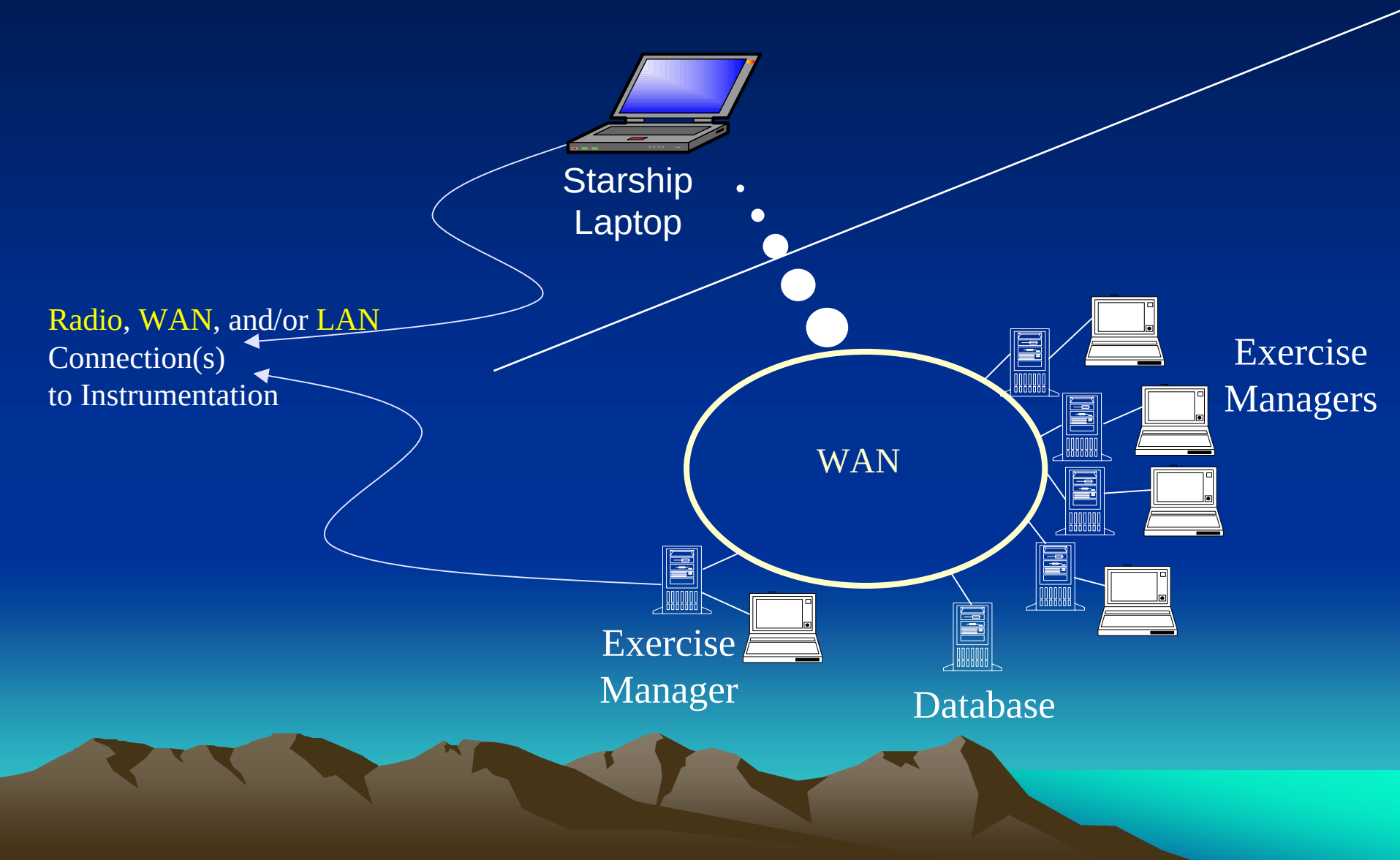


Starship answers the questions:
"What is the plan?"
"Are we ready to start?
"Where is everything?"
"What is everything's status?"
"Are we proceeding according to plan?"
"What is the status of my comm links?"
"Are we collecting the necessary data?"
"Surprises?"

Capabilities

- Handles any defined process or sequence of events.
- Central node in a distributed infrastructure
- Displays status of instrumentation, simulations, simulated entities, systems under test.
- Interfaces with and controls instrumentation, simulations, and live players.
- Reports status to exercise directors.
- Provides valuable data for analysts

Starship Configurations



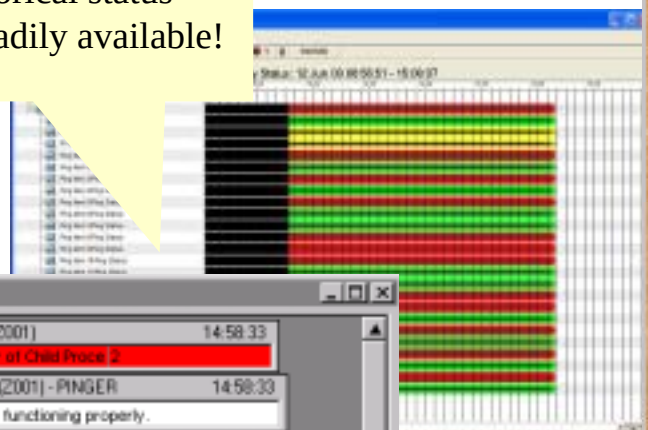
Starship in Operation – User's Perspective

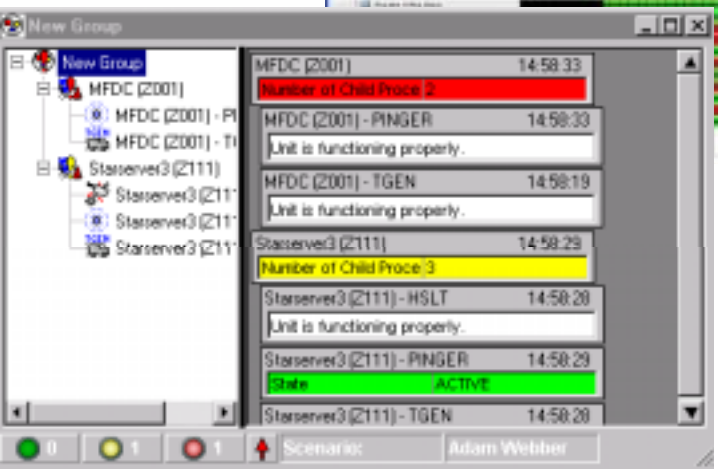
Users easily group entities corresponding to scenario needs.

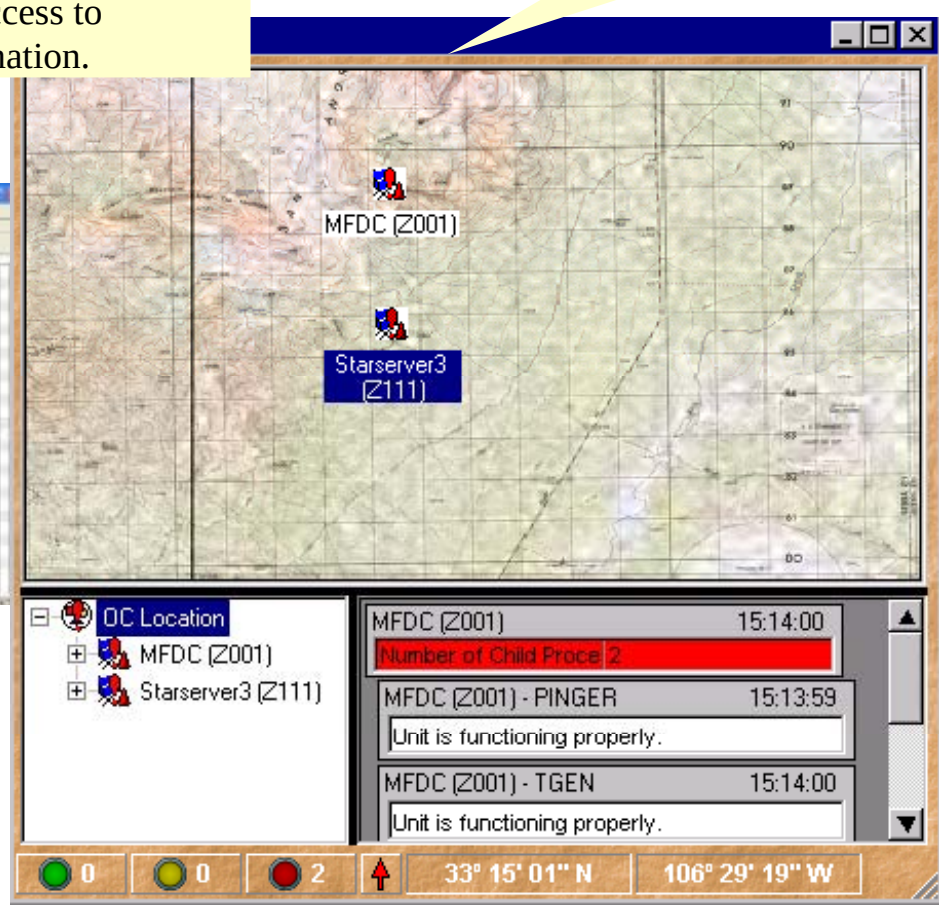
Threshold indicators provide "double click" access to monitored information.

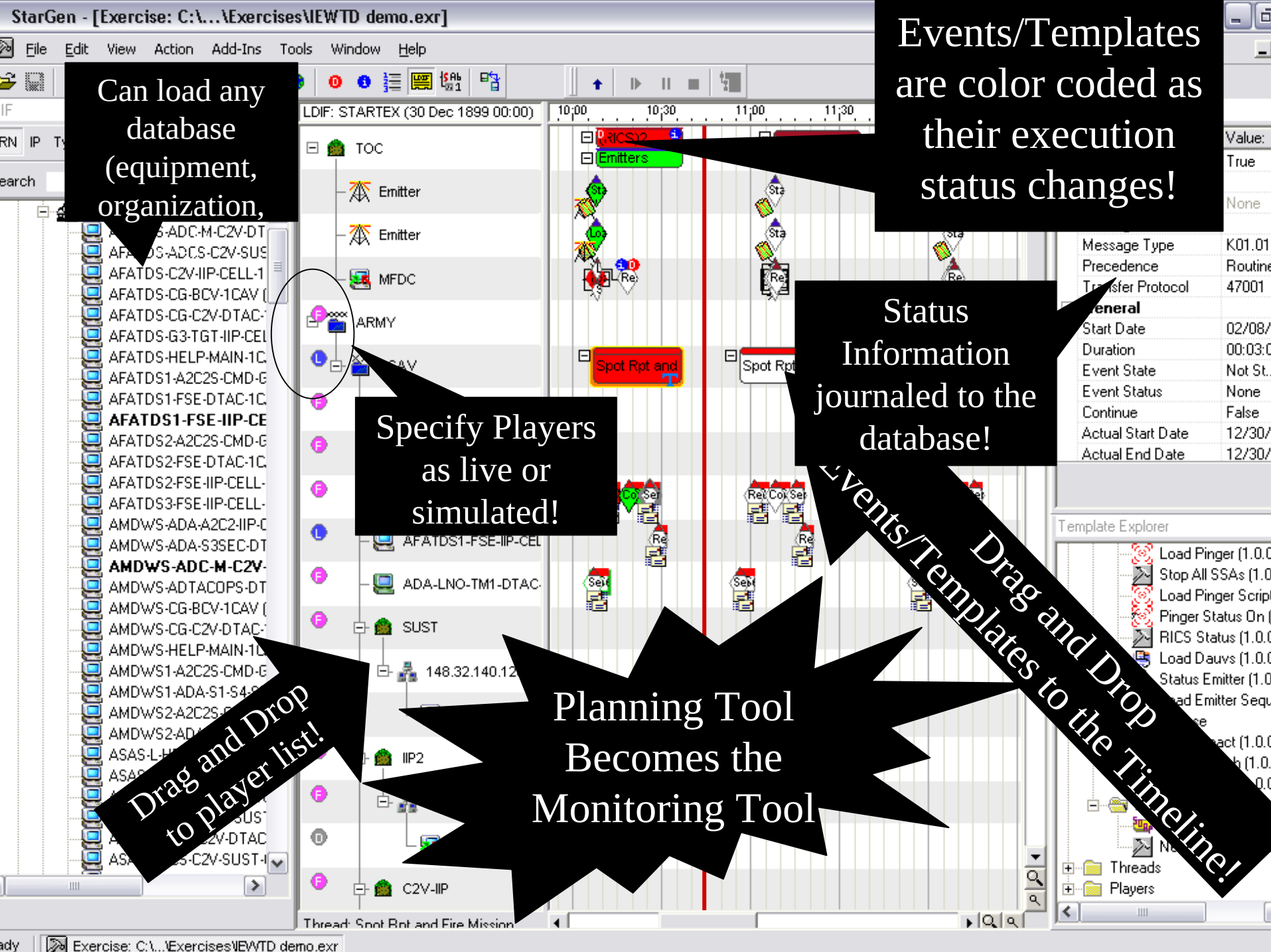
Map Windows (with Pan, Zoom functionality) that display selected groups.

Current and Historical status information is readily available!








StarGen - [Exercise: C:\...\Exercises\IEWTD demo.exr]
File Edit View Action Add-Ins Tools Window Help
Can load any database (equipment, organization,
Events/Templates are color coded as their execution status changes!
LDIF: STARTEX (30 Dec 1899 00:00)
10:00 10:30 11:00 11:30
TOC
Emitter
Emitter
MFDC
ARMY
Spot Rpt and
Specify Players as live or simulated!
Status Information journaled to the database!
Events/Templates to the Timeline!
Drag and Drop
Drag and Drop to player list!
Planning Tool Becomes the Monitoring Tool
ADA-LNO-TM1-DTAC-
SUST
148.32.140.12
IIP2
C2V-IIP
Message Type K01.01
Precedence Routine
Start Date 02/08/
Duration 00:03:0
Event State Not St
Event Status None
Continue False
Actual Start Date 12/30/
Actual End Date 12/30/
Template Explorer
Load Pinger (1.0.0
Stop All SSAs (1.0
Load Pinger Script
Pinger Status On (
RICS Status (1.0.0
Load Dauvs (1.0.0
Status Emitter (1.0
Threads
Players
Thread: Spot Rpt and Fire Mission
Exercise: C:\...\Exercises\IEWTD demo.exr

Planning Features

- **Select players from a user-supplied database using "drag and drop."**
- **Designate live players and players to be simulated.**
- **Create domain specific events.**
- **Drag and drop events onto a timeline.**
- **Link events to create and show dependencies.**
- **Aggregate events into threads**
- **Store events, threads, and plans for later use.**
- **Graphically move events and threads.**
- **Easily lay out the instrumentation architecture.**
- **Export information/scripts to other systems**
- **Generate logical Visio laydowns.**
- **Generate customizable TOEL, deployment, and connectivity reports.**

Execution Features

- **Correlate planned events to actual happenings**
- **Receive near-real-time information on event completion status**
- **Drill down into other EPG applications for more detailed data**
- **Automation Interfaces into EPG applications provide status data.**
- **Automatic schedule adjustment based on the outcome of events.**
- **Integration with discrepancy reporting (DR) system.**
- **Ability to enter comments on each event's outcome**
- **Start and stop systems and processes based on a timeline and the success of other events.**
- **Manually control systems from the GUI to the extent the system allows.**
- **Allow multiple users to view the same scenario simultaneously**
- **Roll up portions of the scenario to 'de-clutter' the display.**

Reporting and AAR Features

- **Many reporting and AAR functions are available during the execution phase.**
- **Ability to immediately show a pictorial view of the completed task.**
- **Reports based on user requirements**
- **Ability to view comments and problems in the context they were discovered.**
- **Can Archive past plan executions**
- **Published API**
- **Standard output file types for external processing**

Testing Applications

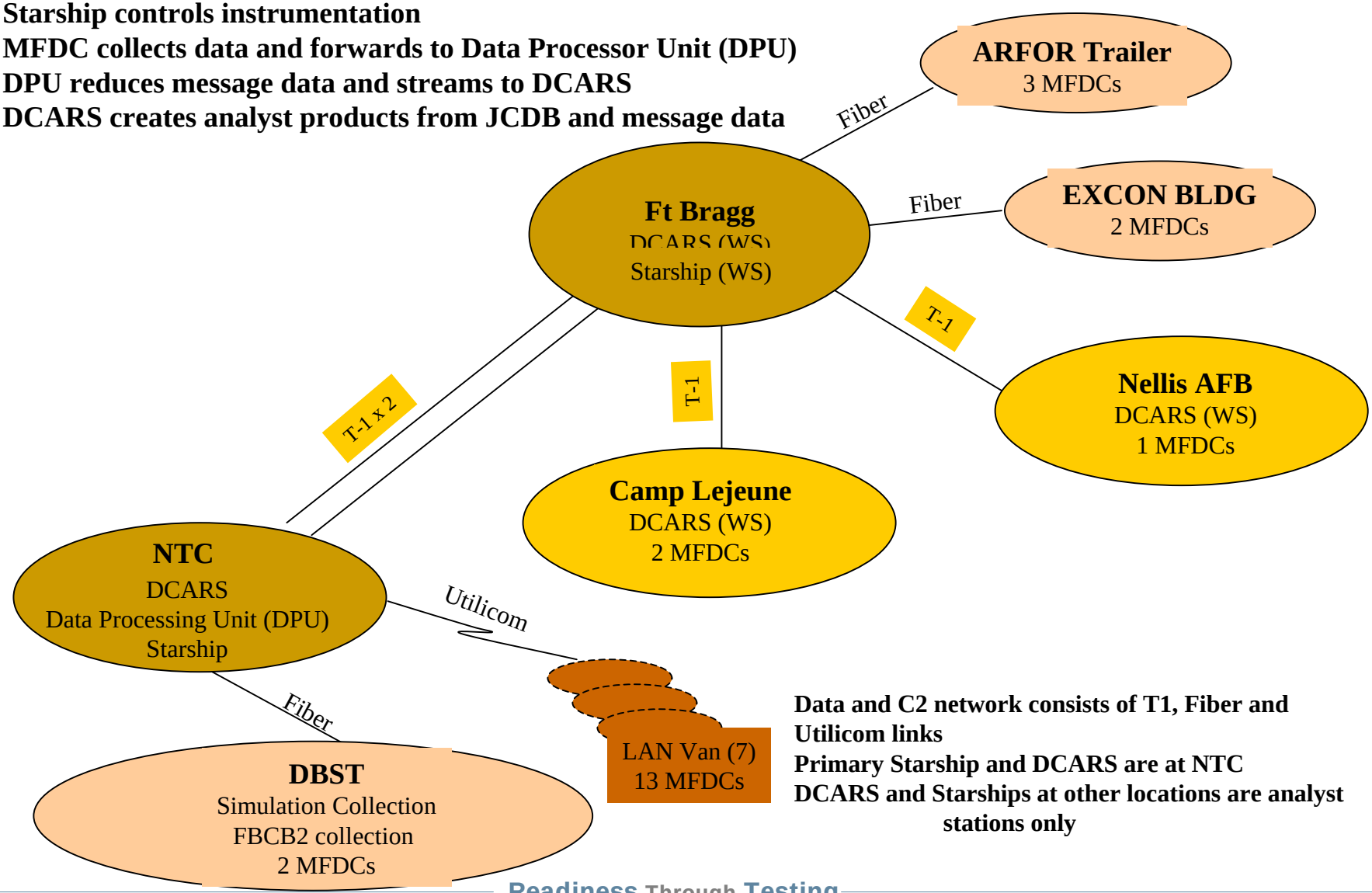
- **Test design**
  - **Reusing existing threads and vignettes**
  - **Multiple test officers entering into the same plan.**
  - **Deconfliction and SUT loading**
  - **Regression Testing**
- **Test Execution**
  - **Simplified Configuration management audits.**
  - **Gathering of boot times and other system statistics.**
  - **Near-real-time status on test events, SUTs, and test equipment**
  - **Discrepancy Reporting of extensive data gathered from the SUTs**
  - **Links into other testing tools for drill down capability.**
- **Reporting**
  - **Outbriefs based on graphical view of the test.**
  - **Completion rates and other traffic statistics**

Training Applications

- **Planning**
  - **Training scenario design (easily build from past plans)**
  - **Easily copy a standard scenario for multiple participants.**
- **Execution**
  - **Monitor the performance of trainees in near-real-time**
  - **Set up automated responses to trainee actions**
  - **Ability to walk the trainee through the tasks to be performed.**
  - **Create task lists automatically.**
- **Reporting and AAR**
  - **Compare trainee performance**
  - **Easy to understand view for AAR and discussion purposes.**

MC02 Architecture

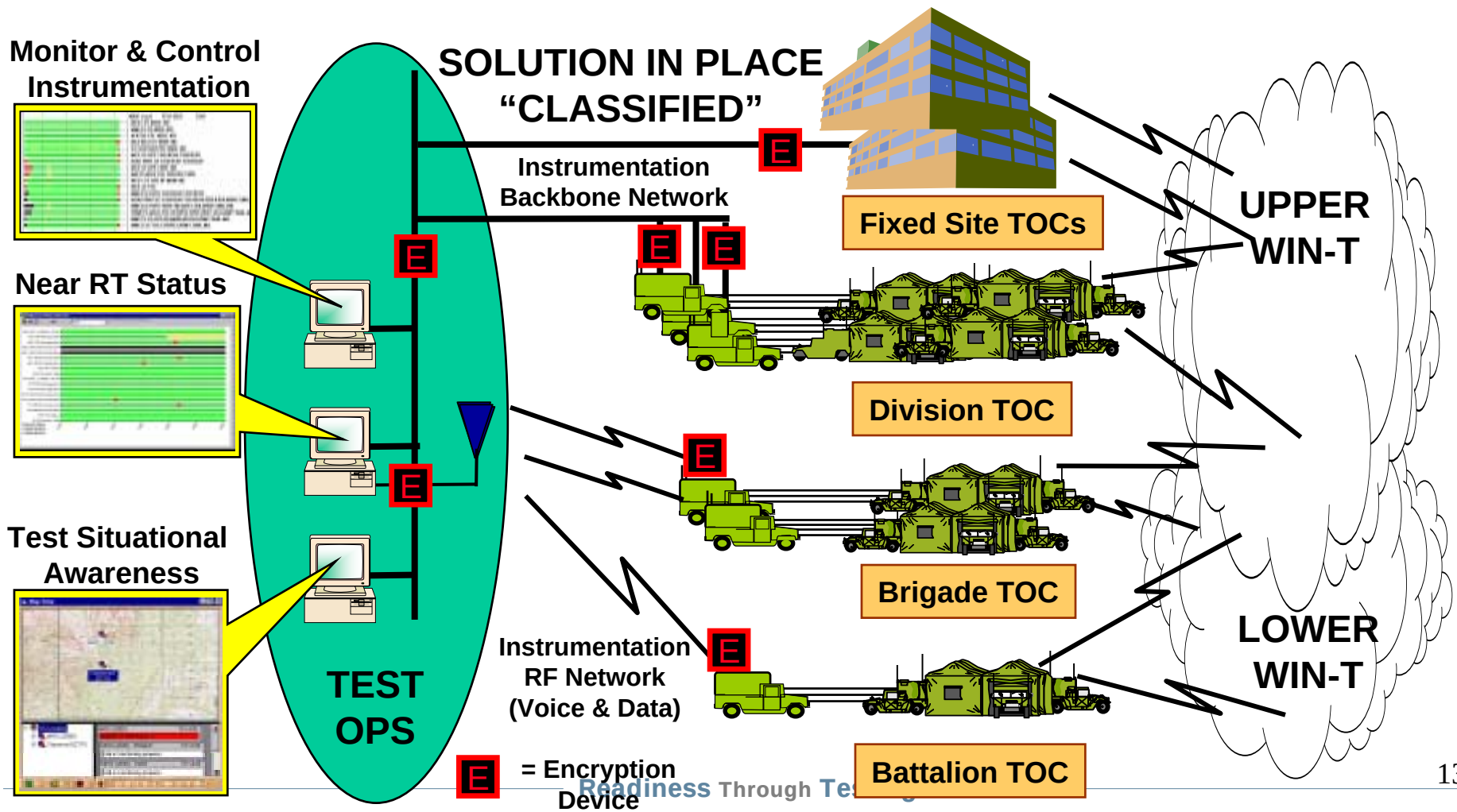
Starship controls instrumentation
MFDC collects data and forwards to Data Processor Unit (DPU)
DPU reduces message data and streams to DCARS
DCARS creates analyst products from JCDB and message data



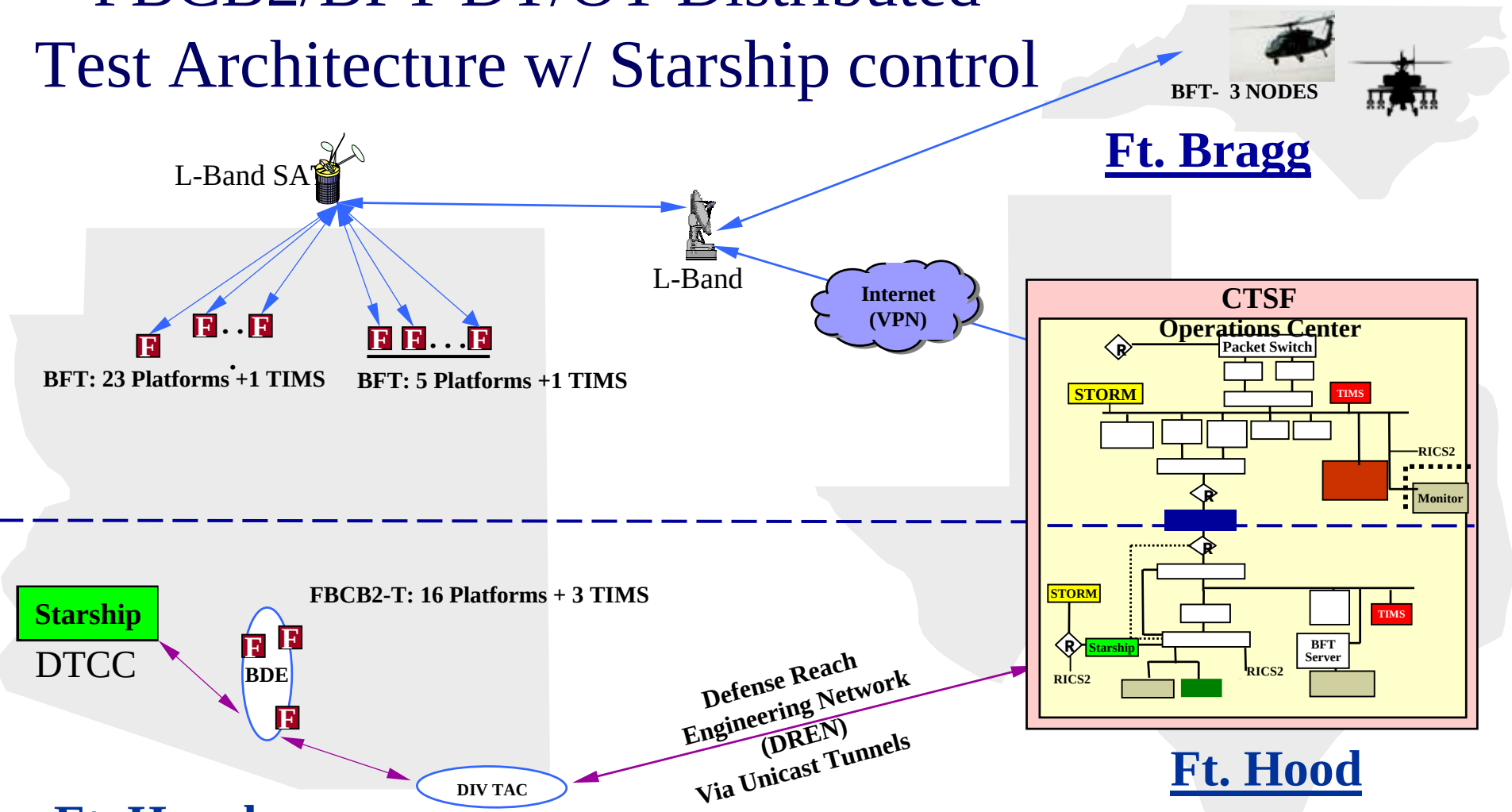
Data and C2 network consists of T1, Fiber and Utilicom links
Primary Starship and DCARS are at NTC
DCARS and Starships at other locations are analyst stations only

BCTI

PHASE I – Secure Instrumentation Network



FBCB2/BFT DT/OT Distributed Test Architecture w/ Starship control



48 IFDCs and 8 RICS2 Platforms at Ft Huachuca with Starship connection

10 RICS2 Platforms at CTSF with Starship connection on the Lower Side of the slide

Test Control

Monitors the HLA RTI:
•By Federate
•HLA attributes including interactions sent/received, queue sizes

Starship HLA MOM Monitor

Starship

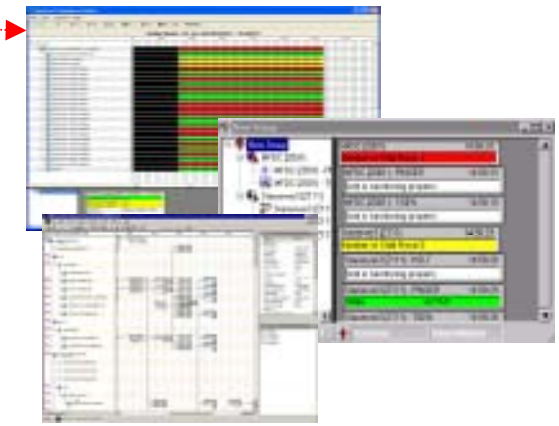
TENA

HLA

DREN

Consolidated view of **all** instrumentation visible to **all** sites:
•HLA Monitor
•(RICS)2 instrumentation
•DIS Monitors

Starship Common Test Picture



Monitors the Local Network:
•Ping Status
•Network Traffic

(RICS)2

Tabulates DIS Messages by Site, Application and Message Type

Starship DIS Monitor

Remote Test Site 1

Remote Test Site 2…

..Remote Test Site N

STARSHIP USE IN SEIT

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